



# Microbiology Lab for HS-12355

BIOL-2120

RT 2022 Section 0003 1 Credits 08/23/2021 to 12/12/2021 Modified 08/18/2021

## Course Meetings

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### Course Modality

On-line and P - In person

### Meeting Days

Wednesdays

### Meeting Times

6pm to 8:50pm

### Meeting Location

On-line and Coleman collage Room # 279

### P - in person lab

Every Wednesday starting 8/25/21

Wednesday, 6:00 PM to 8:50 PM, Coleman college Room # 279

**First four weeks of the class will be on-line due to COVID**

PThe course modality of this class is *In-Person after four weeks*

Faculty will hold class on-campus as per the assigned schedule.

Attendance will be taken each class period.

### Lab course

Every Wednesday starting 8/25/21

Wednesday, 6:00 PM to 8:50 PM, Coleman college Room # 279

## Welcome and Instructor Information

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### Instructor: Ms. Anjali A Gaikwad MS

Email: [anjali.gaikwad@hccs.edu](mailto:anjali.gaikwad@hccs.edu)

### What's Exciting About This Course

In this course, you will gain an understanding of the major historical events in microbiology and their impact on medical science.

You will learn basic cell structure, biochemistry, metabolism, nutrition, reproduction, and genetics of microorganisms, with an

emphasis on bacteria and their medical significance.

We will compare and contrast the various types of pathogenic microorganisms, including bacteria, fungi, viruses, protists, and helminths, with an emphasis on their medical significance, describe various means of microbial control, both in vivo and in vitro. You will demonstrate knowledge of the basic principles of epidemiology and the basic principles of immunology. You will discover the basics of biotechnology and genetic engineering, providing you with an understanding of the importance of molecular methods in the construction of microbial products for scientific, medical and industrial uses. Finally, we will compare and contrast the mechanisms of transmission, entry, pathogenesis and prophylaxis of selected human pathogens.

The information in this course will enable you to understand microorganisms as well as helping you develop new habits to increase your personal success.

## My Personal Welcome

Welcome to Microbiology—I am delighted that you have chosen this course! One of my passions is to know as much as I can about Microbiology, its relationship with human body and I can hardly wait to pass that on. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life.

As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I am available during posted class hours to tackle the questions. So please visit me or contact me by email whenever you have a question.

## Preferred Method of Contact

HCC Email: [anjali.gaikwad@hccs.edu](mailto:anjali.gaikwad@hccs.edu)

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear the concerns and just to discuss course topics.

I will respond to emails within 24-48 hours Monday through Friday; I will reply to weekend messages during the following week.

## Office Hours

During and after class time  
Coleman College Room # 279

Students can meet during and after class

## Course Overview

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### Course Description

Credits: 1 (3 lab). Study of microorganisms including morphology, metabolism, taxonomy, culture techniques, microbial genetics, immunology, bacteriology, virology, mycology, parasitology, and diseases.

### Requisites

Prerequisite: BIOL 1406, or BIOL 1306 + 1106; must be placed into college-level reading (or take GUST 0342 as a corequisite) and be placed into college-level writing (or take ENGL 0310/0349 as a corequisite).

### Department Website

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/>

## Core Curriculum Objectives (CCOs)

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BIOL 2120 satisfies the Life and Physical Sciences requirement in the HCCS core curriculum. The HCC Biology Discipline Committee has specified that the course address the following core objectives:

- **Critical Thinking:** Students will demonstrate the ability to engage in inquiry and analysis, evaluation and synthesis of information, and creative thinking by completing a written assignment such as a book report, research paper, or essay.
- **Communication Skills:** Students will demonstrate effective development, interpretation and expression of ideas through written, oral, and visual communication by completing a written assignment such as a book report, research paper, or essay.
- **Quantitative and Empirical Literacy:** Students will demonstrate the ability to draw conclusions based on the systematic analysis of topics using observation, experiment, and/or numerical skills by completing textbook reading assignments, completing assignments, and answering questions on quizzes and exams that pertain to Course Student Learning Outcomes #2, #3, and #4 below.
- **Teamwork:** Students will demonstrate the ability to consider different points of view and to work effectively with others to support a shared purpose or goal by working together in study groups on and off campus to fulfill Course Student Learning Outcomes #3 and #4 below.

## Student Learning Outcomes and Objectives

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Program Student Learning Outcomes (PSLOs) for the Biology Discipline can be found at <https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/>

### Course Student Learning Outcomes (CSLOs)

Upon completion of BIOL 2120, the student will be able to:

1. Use and comply with laboratory safety rules, procedures, and universal precautions.
2. Demonstrate proficient use of a compound light microscope.
3. Describe and prepare widely used stains and wet mounts, and discuss their significance in identification of microorganisms.
4. Perform basic microbiology procedures using aseptic techniques for transfer, isolation and observation of commonly encountered, clinically significant bacteria.
5. Use different types of bacterial culture media to grow, isolate, and identify microorganisms.
6. Perform basic bacterial identification procedures using biochemical tests.
7. Estimate the number of microorganisms in a sample using methods such as direct counts, viable plate counts, or spectrophotometric measurements.
8. Demonstrate basic identification protocols based on microscopic morphology of some common fungi and parasites.

### Learning Objectives

Learning Objectives for each CSLO can be found at: <http://learning.hccs.edu/programs/biology/faculty-information/microbiology-instructor-information-non-majors-health-science-majors/program-instructional-plan-2120/view>

## Departmental Practices and Procedures

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### Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required.

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments

- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](#)

## Student Success Information

Academic standards require a minimum of 3 study hours for every contact hour; meaning for a class that meets 3 hours per week, you need to budget and set aside a minimum of 9 hours each week to study and prep for your course success. Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely.

Successful completion of this course requires a combination of the following:

1. Reading the textbook
2. Attending class in person and/or online
3. Timely completion of assignments
4. Participating in class activities
5. Successful exam performance, including the mandatory final.

There is no short cut for success in this course; it requires reading and studying the material using the course objectives as a guide.

## Instructional Materials and Resources

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### Instructional Materials

This course participates in the Houston Community College First Day Program. A discount has been applied to the required digital course materials. The discounted charge has been added to students' tuition and fee bills.

Students will access course materials through a link in Canvas. Instructions for opting out of the HCC First Day Program are also posted in Canvas. Students who opt out will still be responsible for obtaining required course materials.

### Benson's Microbiological Applications

**Author:** Heidi R. Smith and Alfred E. Brown

**Publisher:** McGraw Hill

**ISBN:** 9781264908578

**Availability:** First day access

**Price:** \$47.36

The required digital course materials are available to you on the first day of class. The cost for these materials will be billed to your student account. The official day of record is the deadline to opt out and receive a credit for this fee.

## Course Requirements

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To obtain a good grade for the lab manual:

- 1) Students should complete their lab book on a timely basis and it will be your responsibility to obtain the Instructor's signature every week.
- 2) Use appropriate colors to represent the staining procedures performed wherever necessary. The handwriting should be legible and clear.

The Instructor understands the various needs of the students. Therefore, every possible attempt to cooperate with you will be made for valid and genuine problems.

## Assignments, Exams, and Activities

| Type                            | Weight | Topic                     | Notes   |
|---------------------------------|--------|---------------------------|---|
| Two Lab Exams                   | 30%    | As per the labs conducted | There will be two multiple choice lab tests (50 points each) with 25 questions each. This will account to 30% of the final grade (100 points total).  |
| Written Assignment: lab reports | 50%    | Lab reports and exercises | After completion of every lab, students have to submit lab report/exercise within one week. Colored diagrams should be included whenever required in the lab report.  |
| In-Class Activities             |        | Timely completion of labs | Every student has to complete the assigned labs individually or in group as instructed by the instructor. If you are absent for the lab half points will be deducted from respective lab exercise submission. |
| Comprehensive Final Exam        | 20%    | Final exam                | There will be two parts Final Exam for 50 points: students have to perform one experiment (20 points) and short answer questions (30 points).   |

## Grading Formula

| Grade | Range  | Notes  |
|-------|--------|--|
| A     | 90-100 | Student should get total 270-300 points to make "A"  |
| B     | 80-89  | Student should get total 240-269 points to make "B"  |
| C     | 70-79  | Student should get total 210-239 points to make "C"  |
| D     | 60-69  | Students should get total 180-209 points to make "D" |
| F     | 00-59  | Students will make "F" if they get points below 179  |

## \* Instructor's Practices and Procedures

### Incomplete Policy

#### Makeup Examinations:

**Please be reminded: Due to the nature and pace of this course, THERE WILL BE NO MAKEUP EXAMINATION FOR THE Final Exam.**

In this course, the purposes of the "I" (incomplete) grade is for students who are caught up and passing at the student withdrawal deadline, and then have a medical or other problem that prevents them from completing the course. If you are not passing at the student withdrawal deadline, you should drop yourself from the course, or you will likely earn an "F." An incomplete "I" grade will be given only if all of the following conditions are met:

- You have earned at least 85% of the available points by the date that the "I" grade is requested.
- You can provide documentation showing why you should earn an incomplete, such as a doctor's note, etc.
- You must be passing with a grade of "C" or better.
- You must request the incomplete in writing BEFORE Nov 11<sup>th</sup>
- In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

### Missed Assignments/Make-Up Policy

Two lab tests: if you miss any of the lab test, you can take it later as soon as possible. The Instructor understands the various needs of the students. Therefore, every possible attempt to cooperate with you will be made for valid and genuine problems. The student might require to provide documentation of an emergency to allow a make up.

### Academic Integrity

Plagiarism, cheating, and other forms of academic dishonesty are not only violations of the college system and the rules of this class, but are unethical and unprofessional. Students engaging in any form of academic dishonesty are subject to immediate dismissal from the program. You are expected to be familiar with the College's Policy on Academic Honesty, found in the catalog and student handbook. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. College System officials against a student accused of scholastic dishonesty may initiate penalties and/or disciplinary proceedings. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:

- Copying from another students' test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
- Bribing another person to obtain a test that is to be administered.

Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of zero or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook).

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>  
(<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>)

## Attendance Procedures

Being in class (in person) for lab is mandatory. Students are expected to attend classes regularly, & are responsible for materials covered during their absences. It is the student's responsibility to consult with instructors for make-up assignments with a legal documentation of the absence. A student may be dropped administratively from a course for excessive absences of 12.5% hours of instruction. Habitual Tardiness is not accepted, every time you are late coming in or leaving class early by 15 min or more, you will get half absence of class meeting. Students are expected to attend for the entirety of the scheduled class and are responsible for completing assignments scheduled during their absence/s.

**Every student has to complete the assigned labs individually or in group as instructed by the instructor. If you are absent for the lab half points will be deducted from respective lab exercise submission.**

## Student Conduct

Turn cell phones off and pagers to vibrate mode during class. No electronic devices for recording the lecture are allowed in the classroom. Attend to all personal business before the start of class (students will not be allowed to leave the classroom during a test). Do not work on assignments or other course work during class. Conflicts should be brought to the attention of the instructor as soon as possible. Use of laptop computers to follow instruction is accepted. However, no other material should be open on the laptop screen while instruction is in progress. The instructor reserves the right to take an action if the student abuses the liberty provided for use of computer in the class for your convenience.

## Instructor's Course-Specific Information

Early alert: HCC has instituted an Early Alert process by which your professor will "alert" you through written contact actions and through counselors of concerns that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, childcare, financial aid, job placement, etc. – to stay in class and improve your academic performance.

## Faculty Statement about Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person
- Timely completion of assignments
- Participating in class activities
- Successful exam performance, including the mandatory final exam

There is no short cut for success in this course; it requires reading and studying the material using the course objectives as a guide.

## Faculty-Specific Information Regarding Canvas

This course section will use Canvas (<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)) to supplement in-class assignments, exams, and activities.

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## Social Justice Statement

Houston Community College is committed to furthering the cause of social justice in our community and beyond. HCC does not discriminate on the basis of race, color, religion, sex, gender identity and expression, national origin, age, disability, sexual orientation, or veteran status. I fully support that commitment and, as such, will work to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. In this course, we share in the creation and maintenance of a positive and safe learning environment. Part of this process includes acknowledging and embracing the differences among us in order to establish and reinforce that each one of us matters. I appreciate your suggestions about how to best maintain this environment of respect. If you experience any type of discrimination, please contact me and/or the Office of Institutional Equity at 713-718-8271.

## HCC Policies and Information

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### HCC Grading System

HCC uses the following standard grading system:

| Grade | Grade Interpretation                              | Grade Points |
|-------|---|--------------|
| A     | Excellent (90-100)                                | 4            |
| B     | Good (80-89)                                      | 3            |
| C     | Fair (70-79)                                      | 2            |
| D     | Passing (60-69), except in developmental courses. | 1            |
| F     | Failing (59 and below)                            | 0            |

| Grade | Grade Interpretation  | Grade Points |
|-------|---|--------------|
| FX    | Failing due to non-attendance   | 0            |
| W     | Withdrawn   | 0            |
| I     | Incomplete  | 0            |
| AUD   | Audit   | 0            |
| IP    | In Progress. Given only in certain developmental courses. A student must re-enroll to receive credit. | 0            |
| COM   | Completed. Given in non-credit and continuing education courses.                                      | 0            |

## Link to Policies in Student Handbook

Here's the link to the HCC Student Handbook <https://www.hccs.edu/resources-for/current-students/student-handbook/> (<https://www.hccs.edu/resources-for/current-students/student-handbook/>). In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

## Link to HCC Academic Integrity Statement

<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/> (<https://www.hccs.edu/resources-for/faculty/student-conduct-resources-for-faculty/>)

## Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<https://www.hccs.edu/departments/police/campus-carry/> (<https://www.hccs.edu/departments/police/campus-carry/>)



## HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to [HCC Eagle ID \(https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/\)](https://www.hccs.edu/resources-for/current-students/student-e-maileagle-id/) and activate it now. You may also use Canvas Inbox to communicate.

## Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<https://www.hccs.edu/departments/institutional-equity/> (<https://www.hccs.edu/departments/institutional-equity/>))

### Ability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <https://www.hccs.edu/support-services/ability-services/> (<https://www.hccs.edu/support-services/ability-services/>)

### Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross  
Director EEO/Compliance  
Office of Institutional Equity & Diversity  
3100 Main  
(713) 718-8271  
Houston, TX 77266-7517 or [Institutional.Equity@hccs.edu](mailto:Institutional.Equity@hccs.edu) (<mailto:Institutional.Equity@hccs.edu>)

<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/> (<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>)

### Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/> (<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>)

## Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments

- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

## Canvas Learning Management System

Canvas is HCC's Learning Management System (LMS), and can be accessed at the following URL:

<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

## HCC Online Information and Policies

Here is the link to information about HCC Online classes, which includes access to the required Online Information Class Preview for all fully online classes: <https://www.hccs.edu/online/> (<https://www.hccs.edu/online/>)

## Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap> (<https://eagleonline.hccs.edu/login/ldap>)

## Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students during office hours, and before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](https://www.hccs.edu/resources-for/current-students/student-handbook/) (<https://www.hccs.edu/resources-for/current-students/student-handbook/>)

## EGLS3

The EGLS<sup>3</sup> ([Evaluation for Greater Learning Student Survey System](https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/) (<https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS<sup>3</sup> surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/> (<https://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>)

## Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

## Student Resources

### Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services \(https://www.hccs.edu/resources-for/current-students/tutoring/\)](https://www.hccs.edu/resources-for/current-students/tutoring/) website for services provided.

### Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <https://library.hccs.edu> (<https://library.hccs.edu/>).

### Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <https://www.hccs.edu/resources-for/current-students/supplemental-instruction/> (<https://www.hccs.edu/resources-for/current-students/supplemental-instruction/>).

### Resources for Students:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>  
(<https://www.hccs.edu/resources-for/current-students/communicable-diseases/resources-for-students/>)

### Basic Needs Resources:

<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/> (<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/>)

### Student Basic Needs Application:

[https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH)  
([https://hccs.co1.qualtrics.com/jfe/form/SV\\_25WyNx7NwMRz1FH](https://hccs.co1.qualtrics.com/jfe/form/SV_25WyNx7NwMRz1FH))

## COVID-19

Here's the link to the HCC information about COVID-19:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/> (<https://www.hccs.edu/resources-for/current-students/communicable-diseases/>)

## Sensitive or Mature Course Content

In this college-level course, we may occasionally discuss sensitive or mature content. All members of the classroom environment, from your instructor to your fellow students, are expected to handle potentially controversial subjects with respect and consideration for one another's varied experiences and values.

## Instructional Modalities

## In-Person (P)

Safe, face-to-face course with scheduled dates and times

## Online on a Schedule (WS)

Fully online course with virtual meetings at scheduled dates and times

## Online Anytime (WW)

Traditional online course without scheduled meetings

## Hybrid (H)

Course that meets safely 50% face-to-face and 50% virtually

## Hybrid Lab (HL)

Lab class that meets safely 50% face-to-face and 50% virtually

## Course Calendar

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### Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

|    | Lab Name  | Date    |
|----|---|---------|
| 1. | Introduction/Syllabus/Learning Web/CANVAS/ Lab Safety/ Connect  | 8/25/21 |
| 2. | Bright Field Microscopy pp. 1-11 (Lab 1)  | 9/1/21  |
| 3. | Microbiology of Pond Water-Protozoa, Algae and Cyanobacteria, pp. 31-47 - use prepared slides (Lab 5)   | 9/8/21  |
| 4. | The Fungi: Molds and Yeasts, pp. 53-62 (Lab 7)<br><br>- p. 57: Yeast Study, prepared slides<br><br>- p. 58: Mold Study, look at mold on a plate | 9/15/21 |
| 6. | Capsule Staining and Acid-Fast Staining<br><br>(Labs 13 & 16) pp. 107 – 110 & pp. 125-128   | 9/22/21 |
| 7. | Smear Preparation, pp. 87-93 (Lab 10)<br><br>- make the smear<br><br>Simple Staining, pp. 87-93 (Lab 11)  | 9/29/21 |
| 8. | Lab Test I and Negative Staining pp. 101-106 (Lab 12)   | 10/6/21 |

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| 9.  | Gram Staining, pp. 111-117 (Lab 14)<br>- use <i>E. coli</i> and <i>Staph. Aureus</i><br>Endospore Staining, pp. 119 – 124 (Lab 15)   | 10/13/21 |
| 10. | Aseptic Technique, pp. 63-74 (Lab 8)<br>Pure Culture Techniques – inoculate cultures, pp. 75-85 (Lab 9)  | 10/20/21 |
| 11. | Results of Lab 9<br>The Staphylococci: Isolation and Identification, The Streptococci and Enterococci: Isolation and Identification Gram-Negative Intestinal Pathogens (Labs 53,54 & 55) | 10/27/21 |
| 11. | Lab Test II and results of labs 53, 54 & 55  | 11/3/21  |
| 12. | Motility Determination, pp. 129-134 (Lab 17)<br>Physiological Characteristics: Multiple Test Media (Lab 38)  | 11/10/21 |
| 13. | Results of Labs 17 & 38<br>Antimicrobial Sensitivity Testing: The Kirby-Bauer Method – inoculate cultures, pp. 221-233 (Lab 31)  | 11/17/21 |
| 14. | Results of Lab 31  | 11/24/21 |
| 15. | Final Lab Exam Review, Submission of Lab Manuals   | 12/1/21  |
| 16. | Final Lab Exam (Part I & II)   | 12/8/21  |

## Additional Information

### Biology Departmental/Program Information

Visit the [Biology Program Page \(https://learning.hccs.edu/programs/biology\)](https://learning.hccs.edu/programs/biology) on the HCC Learning Web for information about our faculty and courses. You will also find information about majoring in Biology.

The [Field of Study \(FOS\) Curriculum for Biology \(https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/\)](https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/) here at HCC covers the smallest and simplest organisms (microbiology) to the largest and most complex organisms (human anatomy and physiology, zoology, botany).

The [Associate of Science in Biology - Biology Majors & Premedical Programs \(https://www.hccs.edu/finder/programs/associate-of-science-in-biology--biology-majors--premedical-programs---field-of-study-curriculum/\)](https://www.hccs.edu/finder/programs/associate-of-science-in-biology--biology-majors--premedical-programs---field-of-study-curriculum/) FOS is intended primarily for students planning on transferring to a senior college or university to receive a baccalaureate degree in the following areas: computer science, engineering, health and natural sciences, or mathematics.

The [Associate of Science in Biology - Health Sciences Professions \(https://www.hccs.edu/finder/programs/associate-of-](https://www.hccs.edu/finder/programs/associate-of-)

[science-in-biology---health-sciences-professions---field-of-study-curriculum/](#)) FOS is intended primarily for students planning on transferring to a senior college or university to receive a baccalaureate degree in the following areas: computer science, engineering, health and natural sciences, or mathematics. (Pre-Nursing, Pre-Radiologic Sciences, Pre-Clinical Laboratory Services)

Visit the [STEM Resources Page at HCC \(https://www.hccs.edu/resources-for/current-students/stem--science-technology-engineering--mathematics/\)](https://www.hccs.edu/resources-for/current-students/stem--science-technology-engineering--mathematics/): HCC has developed this site to provide information on STEM related programs and resources at HCC and other institution – to include scholarship information.

## Process for Expressing Concerns about the Course

If you have concerns about any aspect of this course, please reach out to your instructor for assistance first. You can always request a meeting (virtual/ in person) to go over your concerns. If your instructor is not able to assist you, then you may wish to contact the Biology Department using this form.

[Biology Department Reporting Form \(https://forms.office.com/r/8BwrMbqCYB\)](https://forms.office.com/r/8BwrMbqCYB)

Email: [hcc.biology@hccs.edu](mailto:hcc.biology@hccs.edu)

If your instructor is not able to assist you, then you may also wish to contact the Department Chair:

Dr. Shadi Kilani

[shadi.kilani@hccs.edu](mailto:shadi.kilani@hccs.edu); 713.718.7035